NOTE XXXIV.

ZOOLOGICAL RESEARCHES IN LIBERIA.

ON A SERIES OF BIRDS, COLLECTED BY MR. A. T. DEMERY IN THE DISTRICT OF GRAND CAPE MOUNT.

BY

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After having spent nine months' time in our Museum, and thoroughly prepared and fit out to carry on my own investigations, Mr. A. T. Demery, the son of my Liberian huntsman Jackson Demery, left for his mother-country in August last year. Immediately after his arrival he went at work and has sent since, amongst many other objects, two small collections of birds from different parts of the district of Grand Cape Mount in Western Liberia. Many of the birds have been collected in the vicinity of Robertsport, others on the Johny Creek (a confluent of the Fisherman Lake), and others again at Jarjee, a Golah Town some days travel in the Interior up the Mahfa River. As, besides the two new *Zosterops*, several of the 87 or 88 collected species are new for Liberia, and others being rare or of some interest in another way, I consider it sufficiently important to bring forward a full list of them, the more so as Mr. Demery, in January last, has left Liberia for the Sulymah River in the British Colony of Sierra Leone. The species not contained in my List of Liberian Birds, N. L. M. 1889, p. 129—138, will be marked with an asterisc.

The species, collected by us in Liberia, have now reached the number of 238.

1. *Asturinula monogrammica* (Temm.). — Robertsport.

2. *Syrnium nuchale*, Sharpe. — Young female in down, obtained Dec. 4th at Robertsport. (The nestling of about the same age I collected at Monrovia is dated April 22nd).

3. *Scotornis longicauda* (Drap.). — Robertsport.

4. *Hirundo rustica*, L. — Several specimens were collected, the first of which is dated Oct. 12th, the last Nov. 18th.

Having now before me the considerable series of 12 well-sexed and dated Liberian specimens, which are collected in the most different periods of their stay in that country, I will shortly describe the different stages of plumage from their arrival in autumn up to their departure for Europe in spring.

a. Female, shot at Robertsport, 12 October 1889. Upper surface strongly glossed with steel-blue, quills and tail-feathers faintly glossed with green and looking rather worn and faded. The outermost pair of tail-feathers are not developed to full length. A very narrow frontlet and the whole chin and throat are pale rufous, the cross-band on the chest is grayish olive-brown, the rest of the lower surface white, the feathers on the breast intermixed with some rusty ones, certainly indicating the beginning of moulting, under wing-coverts white with a slight vinaceous tinge; white spots on tail-feathers very small. Wing 11 cM., longest tail-feathers 6,2 cM. The specimen makes the impression of being a bird of the year.

b. An unlabelled specimen, shot at Robertsport, at what date I cannot say, but any how before Oct. 20th 1889, as the whole consignment has been shipped for Holland on that day. In size and coloration of the upper surface, throat and pectoral band this specimen resembles N°. *a*, the lower surface, however, including the under wing- and tail-coverts, is uniformly tinged with vinaceous. Like in the preceding specimen the white spots on the tail-

feathers are smaller than usual, and in consequence of these characters, connected with the inferior size of the bird, I believe it also to be a female of the year.

c. Male, shot at Paynesville on the Messurado River, 23 October 1884. Above glossy steel-blue, quills and tail-feathers strongly glossed with green and narrowly edged with buffy white at the tips. Frontlet narrow and very pale buff, a short superciliary line and entire throat pale rufous, chin white, breast-band broad, uniform pale brown, rest of under surface, including under wing- and tail-coverts, pure white, without the slightest tinge of buff whatever. Wing 12 cM., tail 7 cM. There is no trace of moulting in the whole plumage, but the unabraded state of quills and tail-feathers, the outer ones of which latter are not fully developed, and also the rich metallic gloss on the upper parts indicate that these parts have already got through moulting. The lower parts, however, as described above, cannot be considered as having moulted, and the rather early date — there is no statement of the birds arriving long before October — would hardly allow to assume the full winter-dress. This rather puzzling specimen is the one mentioned as *H. lucida* (N. L. M. 1886, p. 248) and united afterwards (N. L. M. 1889, p. 117) with *H. rustica* on account of the greater length of the wing and the broad dark band running across the fore-neck.

d. Adult female, shot at Robertsport, 15 Nov. 1889. Upper parts probably newly moulted, glossy steel-blue, also all the wing-coverts, most of the secondaries and innermost tail-feathers. Rest of the secondaries, all the primaries and the outer tail-feathers not yet moulted and entirely worn out and abraded. Frontlet very pale and not yet moulted. All the lower parts, including the under wing-coverts, newly moulted; chin and upper throat nearly chestnut-brown, band across the chest glossy steel-green, divided in the centre by some rusty red feathers; rest of lower surface and under wing-coverts vinaceous red. Wing 11,5 cM., tail unfit for measurement, the tips of the outermost feathers being wanting.

e, *f*. An unsexed specimen, 15 Nov. 1889, and a male, 16 Nov. 1889, both from Robertsport. Both specimens are birds of the year, upper surface glossy steel-green, head smoky gray with some new glossy green feathers, a narrow frontlet dirty white, quills and tail-feathers not yet moulted. Chin and throat pale rusty or nearly white, with some new, chestnut colored feathers, band across the chest with glossy edges to some of the feathers, rest of lower surface through moulting, but not as dark vinaceous red as bird *d*. Wing 12 cM., tail (outermost feathers) 8,2 cM.

N.B. Specimen *e*, having been preserved in spirit, will be used as skeleton.

g, *h*. Two adult males, shot at Robertsport, 18 December 1889. Both specimens like N°. *d*, with chin and throat deep chestnut-brown, rest of lower surface strongly tinged with ferrugineous. Quills and tail-feathers moulted in the same way as in N° *d*, outermost tail-feathers long and very much worn.

i. A female, probably of the year, shot at Robertsport, 18 December 1889. Much paler than the two preceding specimens, much like N° *b*, the nearly white throat being spotted by many newly moulted rusty red feathers. Outermost tail-feathers not much elongated and unmoulted, as well as the primaries. Wing 11,5 cM.; outermost tail-feathers 6,3 cM.

k. A fully adult male, shot on the Fisherman Lake, 2 December 1880. The whole plumage, with the exception of the primaries and outer tail-feathers, entirely moulted and fully resembling the numbers *d*, *g* and *h*. The cross-band on the chest is very glossy steel-blue, the lower surface more richly tinged with red than in all the preceding specimens. Wing 12,2 cM., outermost tail-feathers, which are much faded, 11 cM.

l, *m*. Adult male and female, shot on the Messurado River, 4 April 1888. Both specimens are entirely moulted and in full dress. Upper surface and band across the chest glossy steel-blue, quills and tail-feathers

strongly glossed with green instead of blue. Frontlet, chin and throat in the male very rich, in the female somewhat less chestnut-brown, lower surface and under wing-coverts in the male rusty red, in the female whitish with only a tinge of rusty. Quills and tail-feathers fully developed in the male, less so in the female. Wing of the male 12 cM., of the female 11,2 cM. Outermost tail-feather of the male 9,2 cM., of the female 6,8 cM.

N.B. A male specimen, in the collection of Mr. Crommelin at Haarlem, shot 14 May 1890 near Haarlem, shows the same rich coloration as the two above mentioned males, but the wing measures only 11,5 cM., the outermost tail-feathers, however, surpass those of the Liberian male, measuring 10,3 cM. in length.

Like Sharpe and Dresser (P. Z. S. L. 1870, p. 244—249) have shown already, our Swallow, at the time of its arrival in the winter-quarters, has the under surface nearly, some of them (N° *c* of our series) even pure white, and the plumage is very much worn. But shortly after the arrival (not only short before their departure, as is said by Sharpe and Dresser, p. 247) the white color of the underparts by moulting becomes deep buff (see our specimens *d* and *e* of Nov. 15th) and does not change any more before the birds leave for more northern regions. The moulting of the different parts of the plumage takes place in the following order: back and rump, wing-coverts, beginning with the lesser, lower surface and under wing-coverts, crown and hind neck, secondaries and innermost tail-feathers, primaries, beginning with the inner ones, and outermost tail-feathers. This complete moult is thus going on very slowly and takes about the whole time of their stay in the winter-quarters.

5. *Hirundo nigrita*, Gray. — Mahfa River.

*6. *Cypselus apus* (L.).

An adult female, shot at Robertsport, Nov. 7th, plumage not different from that of our European bird.

7. *Eurystomus afer* (Lath.). — Robertsport.

8. *Ispidina picta* (Bodd.). — Mahfa River.
9. *Merops albicollis*, Vieill. — Robertsport.
10. » *gularis*, Shaw. — Mahfa River.
11. *Cinnyris fuliginosus* (Shaw). — Robertsport.
12. » *cyanolaemus* (Jard.). — Jarjee.
13. » *verticalis* (Lath.). — Jarjee.
14. » *obscurus* (Jard.). — Jarjee.
15. » *chloropygius* (Jard.). — Robertsport and Jarjee.
16. » *venustus* (Shaw). — Robertsport.
17. *Anthreptes hypodilus* (Jard.). — Robertsport.
18. » *rectirostris* (Shaw). — Robertsport and Jarjee.

*19. *Zosterops demeryi*, n. sp.

A male specimen from Robertsport.

General color on upper surface olive-green, more intensely so on crown, sides of head, rump and upper tail-coverts, and strongly tinged with gray on hind neck, mantle and wing-coverts. Quills blackish, outer web edged with silvery gray, edges on the secondaries broader and strongly tinged with green. Inner web of all the quills lined with white above as well as below. Wing-coverts dusky, broadly edged with the color of the back. Tail-feathers like quills, outer edges green, innermost pair entirely olive-brown. Front, chin, throat and under tail-coverts sulphur-yellow, a well-defined loral streak, which is continued backward underneath the eye, pure black, a ring round the eye silky white. Lower surface and flanks ashy gray, strongly tinged with yellow, under wing-coverts and edge of wing white, thighs white, faintly tinged with yellow. Iris brown, bill black, feet gray. Length of wing 5 cM., tail 3,4 cM., culmen 1 cM., leg 1,5 cM.

This species, which I propose to name after its discoverer, differs from the allied *Z. abyssinica* and *Z. poliogaster* by its inferior size, the duller upper surface, and more especially by the yellowish breast and flanks and the silvery gray outer edges of the primaries.

*20. *Zosterops obsoleta*, n. sp.

A male specimen from Robertsport.

Upper surface ashy gray with a very faint olivaceous tinge. Front and whole lower surface dirty white, chin and throat pure white, chest with an isabelline tinge. Lores and eye-ring like in the preceding species. Wing-coverts and quills dusky, the latter and the tail-feathers narrowly edged on the outer web with olive-gray. Inner margin of quills as well as the lower surface of wing white. Iris brown, bill blackish, feet gray. Measurements as in the preceding species.

21. *Cisticola rufa* (Fras.). — Robertsport.

22. *Camaroptera concolor*, Hartl. — Robertsport.

23. » *brevicaudata* (Cretzschm.). — Robertsport.

24. » spec.?

A probably young female (N° 65) from Robertsport.

Whole upper surface dull olive-green, quills and wing-coverts broadly margined with yellowish green, under wing-coverts white with a dark spot, the tips of the primary coverts being olive-brown, edge of wing yellow. Lores ashy gray, lower surface of body paler green than above, with a strong tinge of yellow. Breast and abdomen more whitish, tinged with yellow. Measurements as in the preceding species. Iris brown, bill horn-color, yellow at the base of lower mandible.

25. *Cossypha verticalis*, Hartl. — Robertsport.

26. *Turdinus fulvescens* (Cass.). — Robertsport.

27. *Crateropus atripennis*, Sw. — Robertsport.

28. *Criniger barbatus* (Temm.). — Jarjee and Johny Creek.

29. » *verreauxi*, Sharpe. — Jarjee.

30. » *simplex* (Hartl.). — Robertsport.

31. » *indicator*, Verr. — Jarjee.

*32. » *calurus* (Cass.). — An adult male, collected at Jarjee.

Another of the numerous species, hitherto known from the Gaboon and Cameroons only. Iris dark brown, bill grayish black, feet gray.

33. *Chlorocichla gracilirostris* (Strickl.). — Robertsport.

34. *Andropadus curvirostris*, Cass. — Robertsport and Jarjee.

35. » *virens*, Cass. — Robertsport, Mahfa River and Jarjee.

36. *Pycnonotus barbatus* (Desf.). — Robertsport.

*37. *Sylvia hortensis*, Bechst.

Four specimens, collected in November near Robertsport. No difference between these specimens and those from Europe in summer plumage.

38. *Macronyx croceus* (Vieill.). — Robertsport.

39. *Muscicapa lugens*, Hartl. — Mahfa River. (Male and female, perfectly similar in color).

40. *Platystira cyanea* (P. L. S. Müll.). — Robertsport.

41. *Diaphorophyia castanea* (Fras.). — Robertsport and Mahfa River.

*42. *Diaphorophyia blissetti*, Sharpe.

Two adult males from Robertsport.

*43. *Megabias flammulatus*, J. & E. Verr.

An adult male was collected in brushwood near Robertsport. Iris red, bill black, feet dark red.

44. *Dicrurus atripennis*, Sw. — Johny Creek.

*45. *Lanius smithii* (Fras.). — Robertsport.

46. *Nicator chloris* (Less.). — Robertsport and Jarjee.

47. *Chaunonotus sabinei*, J. E. Gray. — Robertsport.

48. *Dryoscopus leucorhynchus* (Hartl.). — Robertsport.

49. *Oriolus brachyrhynchus*, Sw. — Jarjee.

50. *Corvus scapulatus*, Daud. — Robertsport.

51. *Lamprocolius cupreicauda*, Hartl. — Robertsport.

52. *Pholidauges leucogaster* (Gm.). — Fisherman Lake.

53. *Malimbus nitens* (J. E. Gray). — Robertsport and Jarjee.

54. » *scutatus* (Cass.). — Jarjee.

55. *Ploceus nigerrimus*, Vieill. — Jarjee.

56. » *castaneofuscus*, Less. — Robertsport.

57. » *aurantius* (Vieill.). — Robertsport.

58. » *brachypterus*, Sw. — Robertsport.

59. *Pyromelana flammiceps* (Sw.). — Robertsport.

60. *Vidua principalis* (L.). — Robertsport.

61. *Estrelda melpoda* (Vieill.). — Robertsport.

Besides many specimens in usual dress, there are three albinos, all shot together on the same spot. The red on cheeks and upper tail-coverts is somewhat fainter than usual, the whole rest of the plumage is pure white. This is the only evidence of albinisme I ever met with in Liberian birds.

62. *Spermospiza haematina* (Vieill.). — Mahfa River.

63. *Pyrenestes personatus*, Dubus. — Robertsport.

64. *Spermestes fringilloides* (Lafr.). — Robertsport.

65. » *bicolor* (Fras.). — Robertsport.

66. *Nigrita emiliae*, Sharpe. — Jarjee.

67. » *bicolor* (Fras.). — Jarjee.

68. *Lophoceros semifasciatus* (Temm.). — Mahfa River.

69. *Psittacus timneh*, Fras. — Robertsport.

70. *Megalaema duchaillui* (Cass.). — Mahfa River.

71. » *subsulphurea* (Fras.). — Robertsport.

72. » *atroflava* (Blumenb.). — Jarjee.

73. » *scolopacea* (Bp.). — Robertsport.

74. *Dendropicus lugubris*, Hartl. — Robertsport.

75. *Campothera maculosa* (Val.). — Jarjee.

76. » *caroli* (Malh.). — Johny Creek.

77. *Centropus francisci*, Bp. — Robertsport and Mahfa River.

Both specimens (nestlings) show the same peculiarities in plumage as the male nestling mentioned by me in N. L. M. 1886, p. 223, though they are females, having the feathers on head, neck, chest and mantle black without being intermixed with red ones.

78. *Centropus senegalensis* (L.). — Robertsport.

Besides an adult male there are three young (half grown) males with the lower surface strongly tinged with ferrugineous. The mantle, wing-coverts and in one of the specimens also the tertiaries are brown and strongly banded with black, while in the third the tertiaries and also the outer edges of the inner secondaries are uniform black with a greenish gloss, though not as splendid as the tail-feathers.

79. *Ceuthmochares aeneus* (Vieill.). — Robertsport.

An adult male with blue gloss and black bill.

80. *Chrysococcyx klaasii* (Steph.). — Robertsport.

81. *Treron calva* (Temm.). — Robertsport.

82. *Peristera puella*, Schl. — Mahfa River.

83. » *afra* (L.). — Robertsport.

84. » *tympanistria* (Temm.). — Robertsport.

85. *Francolinus ahantensis*, Temm. — Fisherman Lake.

86. *Oedicnemus vermiculatus*, Cab. — Sea-shore near Robertsport.

*87. *Charadrius forbesi* (Shelley).

Charadrius indicus, Schl. Mus. P.-B., Cursores, p. 25.
Charadrius forbesi, Seebohm, Charadriidae, p. 136.

An adult female, collected near the mouth of the Mahfa River.

Iris brown, eye-lid and base of lower mandible orange-red, rest of bill black, feet flesh-color. The specimen, mentioned as *Charadrius indicus* in Schlegel's Catalogue and said to come from Nepal and to be presented by Hodgson, is a true *Ch. forbesi*.

88. *Botaurus leucolophus* (Jard.). — Fisherman Lake.

Leyden Museum, June 1890.